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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,560	03/30/2004	Li-Peng Wang	110578-136432	1224

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EXAMINER
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MCDONALD, RODNEY GLENN

ART UNIT	PAPER NUMBER
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1753

MAIL DATE	DELIVERY MODE
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07/17/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/816,560

Applicant(s)

WANG ET AL.

Examiner

Rodney G. McDonald

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4 and 7-15 is/are allowed.
- 6) ☒ Claim(s) 5,6 and 16-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 7/2004.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 6, 16, 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5, line 3, is indefinite because it is unclear what "other aspects" are involved.

Claim 6, line 3, is indefinite because it is unclear what "other aspects" are involved.

Claim 16, line 3, is indefinite because it is unclear what "other aspects" are involved.

Claim 17, line 3, is indefinite because it is unclear what "other aspects" are involved.

Claim 18, line 3, is indefinite because "disposition" is indefinite.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Pryor (U.S. Pat. 5,091,208).

Regarding claim 18, Pryor teach a deposition system having a deposition chamber. A holder disposed inside the deposition chamber. A first and second independent voltage source coupled to the holder and adapted to be able to independently apply a first and second voltage of a first and a second voltage level to a first and a second region of a substrate held by the holder. (See Fig. 1; Fig. 5; Fig. 6; Column 8 lines 35-68; Column 9 line 1-12)

Regarding claim 20, Pryor teach utilizing first and second DC voltages. (See Fig. 6; Column 8 lines 35-68; Column 9 line 1-12)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pryor (U.S. Pat. 5,091,208) in view of Barnes et al. (U.S. Pat. 5,178,739).

Pryor is discussed above and all is as applies above. (See Pryor discussed above)

The difference between Pryor and the present claims is that utilizing ionized physical vapor deposition is not discussed.

Regarding claim 19, Barnes et al. teach utilizing ionized physical vapor deposition utilizing a biased work holder. (See Barnes et al. Abstract; Column 3 lines 65-66)

The motivation for utilizing the features of Barnes et al. is that it allows for ionization of deposition material while controlling its directionality. (See Abstract)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Pryor by utilizing the features of Barnes et al. because it allows for ionization of deposition material while controlling its directionality.

***Allowable Subject Matter***

Claims 1-4 and 7-15 are allowed.

Claims 5, 6, 16 and 17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

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The following is a statement of reasons for the indication of allowable subject matter:

Claims 1-12 are indicated as being allowable over the prior art because the prior art of record does not teach ionizing a sputtered material; and applying a first and a second bias voltage to a first and a second region of a substrate of a micro-electromechanical system (MEMS) to form a first and a second layer of a first and a second film stack of a first and a second film bulk acoustic resonators filter of the MEMS for a first and a second frequency band respectively, the first and second layers having first and second desired thicknesses, and the first and second bias voltages being applied in accordance with at least the first and second desired thicknesses, respectively.

Claims 13-17 are indicated as being allowable over the prior art because the prior art of record does not teach forming a first and a second layer of a first and a second film stack of a first and a second film bulk acoustic resonators filter for a first and a second frequency band, respectively, at a first point in time, for a micro-electromechanical system (MEMS), the first and second layers having a first and a second thicknesses respectively; ionizing a sputtered material; and applying a first and a second bias voltage to a first and a second region of a substrate of the MEMS to form a third and a fourth layer of the first and second film stacks, on top of the first and second layers, respectively, at a second point in time, subsequent to said first point in time, the third and fourth layers having third and fourth desired thicknesses, and the first

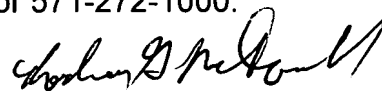
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and second bias voltages being applied in accordance with at least the first and second desired thicknesses.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 571-272-1340. The examiner can normally be reached on M-TH with every Friday off..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Rodney G. McDonald  
Primary Examiner  
Art Unit 1753

RM  
July 12, 2007